

Claims

1) A device for feeding filter rods (2) in a filter tip attachment machine, comprising a take-up roller (5) presenting longitudinal flutes (7) each serving to take up and retain a respective filter rod (2), on which the rods (2) are directed along a predetermined feed path (P) through cross cuttings means (9) and divided transversely into plugs (10) before being transferred to staggering means (13), characterized in that the roller (5) comprises means (40) by which to adjust the axial position of the flutes (7).

2) A device as in claim 1, comprising at least two first modules (17) affording grooves (24, 25) presented by a central portion of each flute (7), adjustable between positions distanced from and breasted with one another through the agency of the adjustment means (40) in such a way as to create a first gap (58), when in the breasted position, afforded by each flute (7) and accommodating the passage of the cutting means (9).

3) A device as in claim 2, wherein each of the first modules (17) affords a second gap (59) accommodating the passage of the cutting means (9).

4) A device as in claim 2, comprising second modules (20) affording grooves (26, 27) presented by intermediate portions of each flute (7) and capable

of movement as one with the first modules (17), wherein each second module (20) combines with the relative first module (17) to create a respective second gap (59) afforded by each flute (7) and  
5 accommodating the passage of the cutting means (9).

5) A device as in claim 3 or 4, wherein the second gaps (59) are disposed symmetrically in relation to the first gap (58).

6) A device as in claim 4, comprising tension means  
10 (31) by which the second modules (20) are held in contact with the first modules (17).

7) A device as in claim 6, wherein the tension means (31) comprise spring means (32, 33).

8) A device as in claims 1 to 7, comprising third  
15 modules (23) affording grooves (28, 29) presented by end portions of each flute (7), disposed symmetrically in relation to the first and second modules (17, 20).

9) A device as in claims 2 to 8, comprising cross  
20 cutting means (9) consisting in one or more disc cutters (11) rotatable about axes parallel to the axis (6) of the take-up roller (5), wherein the axial positions of the first and second gaps (58, 59) are

dependent on the number and position of the disc cutters (11).

10) A device as in claims 1 to 9, wherein adjustment means (40) comprise at least first motion-inducing means (41) associated with the first modules (17) and  
5 coupled to a first common transmission component (45).

11) A device as in claims 1 to 10, wherein adjustment means (40) further comprise second motion-inducing means (48) associated with the third modules  
10 (23) and coupled to a second common transmission component (52).

12) A device as in claim 10, wherein the first motion-inducing means (41) comprise a plurality of first threaded rods (42, 43) coupled to the first  
15 modules (17) by way of lead screw assemblies and presenting respective toothed heads (44), and the first common transmission component (45) comprises a first ring gear (46) concentric with the take-up  
20 roller (5) and in mesh with the toothed heads (44) of the single threaded rods (42, 43).

13) A device as in claim 11, wherein the second motion-inducing means (48) comprise a plurality of second threaded rods (49, 50) coupled to the third  
25 modules (23) by way of lead screw assemblies and presenting respective toothed heads (51), and the

second common transmission component (52) comprises a second ring gear (53) concentric with the take-up roller (5) and in mesh with the toothed heads (51) of the single threaded rods (49, 50).

5        14) A device as in claims 12 and 13, comprising coupling means to which a tool can be fitted for the purpose of operating and adjusting the first and second common transmission components (45, 52).

10        15) A device as in claim 14, wherein tool coupling means consist in a socket (56) afforded by one end of at least one of the first threaded rods (42, 43), and a socket (56) afforded by one end of at least one of the second threaded rods (49, 50).

15        16) A device as in claims 2 to 15, wherein the first, second and third modules (17, 20, 23) combine to create voids (60) allowing the insertion and passage of take-up means associated with the staggering means (13).

20        17) A device as in claims 2 to 15, comprising alignment rings (61) associated coaxially with the fluted take-up roller (5) and positioned at the opposite ends of the flutes (7).